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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/099,823 06/19/98 BILLING-MEDEL P 0200-0023.20

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EXAMINER

ENEWOLD, J

ART UNIT

PAPER NUMBER

1655

DATE MAILED:

04/18/00

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

## Office Action Summary

Application No.

09/099,823

Applicant(s)

BILLING-MEDEL ET AL.

Examiner

Jeanine A Enewold

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 March 2000.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☐ Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above claim(s) 17-29,31,32,34,36,37,43 and 44 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16, 30 33 35 38-42 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some \* c) ☐ None of the CERTIFIED copies of the priority documents have been:
1. ☐ received.
2. ☐ received in Application No. (Series Code / Serial Number) \_\_\_\_\_.
3. ☐ received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

### Attachment(s)

- 14) ☒ Notice of References Cited (PTO-892)
- 15) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 16) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 17) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 18) ☐ Notice of Informal Patent Application (PTO-152)
- 19) ☐ Other: \_\_\_\_\_

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#### **DETAILED ACTION**

1. This action is in response to the papers filed March 7, 2000. Currently, claims 1-44 are pending. Claims 17-29, 31-32, 34, 36-37, 43-44 have been withdrawn from consideration. All arguments have been thoroughly reviewed but are deemed non-persuasive for the reasons which follow.
2. Any objections and rejections not reiterated below are hereby withdrawn.
3. This action contains new grounds of rejection necessitated by amendment.

#### ***Election/Restriction***

4. Applicant's response affirms election of Group I, Claims 1-16, 30, 33, 35, 38-39 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)). The restriction requirement is therefore made FINAL.

#### ***Priority***

5. Although, this application is a continuation-in-part of the parent application 08/879,354, additional materials (SEQ ID NO: 3, SEQ ID NO: 4 and SEQ ID NO: 5) are added to all of the elected claims in this application. Therefore, the claims considered receive priority back to the instant filing date of June 19, 1998 rather than to the effective filing date of the parent application 08/879,354 of June 1997.

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***Maintained Rejections***

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

1. Claims 1-16, 30, 33, 35, 38-42 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a method for detecting the presence of a target BS124 polynucleotide comprising SEQ ID NO: 1-5 and the complements of SEQ ID NO: 1-5, does not reasonably provide enablement for BS124 polynucleotides having "at least 50% identity with" SEQ ID NO: 1-5 and fragments or complements thereof, or for genes encoding BS124 proteins having "at least 50% identity" with SEQ ID NO: 22. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims.

It is well established that to claim a chemical compound, such as a polynucleotide, the inventor must be able to define the compound so as to distinguish the compound from other materials. The claimed compound must be defined in terms

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so as to provide a permanent and definite idea of the complete and operative invention. In the instant case, the claimed polynucleotides have not been clearly defined in terms of structure and/or function, and therefore one cannot make and use the polynucleotides as claimed. As stated in *Vaek* (CAFC 20 USPQ2d 1438, the "specification must teach those of skill in the art how to make and use the invention as broadly as it is claimed." However, in order to be able to make an invention, one must be able to clearly define that invention.

The claims are drawn to a method of detecting a polynucleotide having "at least 50% identity with" SEQ ID NO:s 1-5 and fragments and complements thereof (Claims 1-9), to polynucleotides having "at least 50% identity with" SEQ ID NO:s 1-5, and fragments and complements thereof, and to a gene which codes for an BS124 protein "which comprises an amino acid sequence having at least 50% identity to SEQ ID NO: 22" (Claim 38). The specification teaches a single BS124 consensus polynucleotide, SEQ ID NO: 5, the sequence of which was assembled from 3 EST clones (SEQ ID NO:1-3) and the full-length clone (SEQ ID NO: 4) (pg. 57).

Applicant's specification discloses a single BS124 gene sequence and a single BS124 protein sequence. Yet Applicant's claims, which are to sequences having "at least 50% identity" with a few sequences taught in the specification, may encompass thousands of polynucleotides. As discussed below, Applicant's definition of "% identity" is insufficient to provide a skilled artisan with the guidance necessary to clearly define the sequences encompassed by this claim language. Without specific teachings with

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respect to the methods used to determine "% identity", a skilled artisan could not be expected to identify or make the polynucleotides encompassed by the instant claims. Furthermore, irrespective of how "% identity" is defined, it is clear that by any definition of "% identity", many sequences encompassed by applicant's claims, and particularly those having "at least 50% identity" with fragments of the sequences taught in the specification, would bear little resemblance to the single BS124 consensus sequence that Applicant has taught. Neither the specification nor the claims set forth any particular structural or functional characteristics that a skilled artisan could use to identify polynucleotides that constitute BS124 polynucleotides, other than those described by SEQ ID NO. The term "BS124" is not an art recognized term, and thus the prior art is silent with respect to structural and functional features that may be used to identify such polynucleotides. Furthermore, in teaching a single BS124 polynucleotide sequence and a single BS124 protein sequence, applicant clearly has not taught the isolation of a representative number of polynucleotides that fall within the scope of the large genus encompassed by the instant claims. Thus, while the teachings of the specification and of the prior art would enable a skilled artisan to make and use polynucleotides comprising SEQ ID NO: 1-5 and the complements of SEQ ID NO: 1-5, as well as polynucleotides encoding SEQ ID NO: 22, it is unpredictable as to whether a skilled artisan could make and use BS124 polynucleotides having "at least 50% identity" with SEQ ID NO: 1-5 and fragments and complements thereof, or genes encoding BS124 proteins having "at least 50% identity" with SEQ ID NO: 22. It would require

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undue experimentation for a skilled artisan to make and use the invention as broadly as it is claimed.

### **Response to Arguments**

The response traverses this rejection because "percent identity" is enabled. This argument has been reviewed but is not convincing, although the response submitted a detailed description of "% identity" and removes the claim language "BS124" from the claims, the rejection also stated "Furthermore, irrespective of how "% identity" is defined, it is clear that by any definition of "% identity", many sequences encompassed by applicant's claims, and particularly those having "at least 50% identity" with fragments of the sequences taught in the specification, would bear little resemblance to the single BS124 consensus sequence that Applicant has taught. Neither the specification nor the claims set forth any particular structural or functional characteristics that a skilled artisan could use to identify polynucleotides that constitute BS124 polynucleotides, other than those described by SEQ ID NO." Thus sequences with at least 50% identity with SEQUENCE ID NO: 1, 2, 3, and at least 60% identity with SEQ ID NO: 4, 5, would have little resemblance to a breast-specific polynucleotide of the claimed invention. Specifically, it would be expected that methods for detecting breast-specific nucleotides with such sequences which are 50% identical to SEQ ID NO: 1, 2, 3, or 60% identical to SEQ ID NO: 4, 5, would detect polynucleotides which were not breast-specific and which would have little to no correlation to the presence of breast

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disease. Thus, it would still require undue experimentation for the skilled artisan to practice the instant claims as broadly as claimed.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 11 is rejected under 35 U.S.C. 102(b) as being anticipated by Hawkins (GenBank Accession No: ACOO2098, May 1997).

Hawkins teaches GenBank Accession No. ACOO2098, a human chromosome 9 clone of which a 122 base pair sequence is 99.2% identical to base pairs 5815-5694 of SEQ ID NO: 1 (See attachment)(limitations of Claims 11). Hawkins' teachings clearly encompass polynucleotides having "at least 50% identity" with sequences encompassed by the instant claims, as well as fragments and complements thereof.



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### **Response to Arguments**

The response traverses the rejection because the claim has been amended to recite specific sequences of SEQ ID NO: 1, 2, 4, 5. The response also requests clarification regarding the rejection. Previously, the claims were drawn to a polynucleotide with at least 50% identity to a fragment of SEQ ID NO: 1. Hawkins teaches GenBank Accession No. ACOO2098 which a 122 base pair sequence is 99.2% identical to base pairs 5815-5694 of SEQ ID NO: 1, constituting a fragment. This argument has been reviewed but is not convincing because the claims remain drawn to a polynucleotide having at least 50% identity with SEQ ID NO: 1. The claim is drawn to a polynucleotide of any length which minimally contains a region having 50% identity with SEQ ID NO: 1-5. "Having" is open claim language equivalent to "comprising". A polynucleotide which has 50% identity to a specific sequence is not equivalent to a polynucleotide consisting of SEQ ID NO: 1-5. As stated by the response (pg. 11), the "query match", which is the alignment over the entire sequence as opposed to the best local similarity, is 51% identical to SEQ ID NO: 1, which is encompassed by the instant claims. Thus for the reasons above and those already of record, the rejection is maintained.

3. Claim 11 is rejected under 35 U.S.C. 102(a) as being anticipated by Hawkins (GenBank Accession NO: AC002320, July 1997).

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Hawkins teaches GenBank Accession No. AC002320, a human chromosome 9 clone of which a 122 base pair sequence is 99.2% identical to base pairs 48493-48372 of SEQ ID NO: 1 (See attachment)(limitations of Claims 11). Hawkins' teachings clearly encompass polynucleotides having "at least 50% identity" with sequences encompassed by the instant claims, as well as fragments and complements thereof.

**Response to Arguments**

The response traverses the rejection because the claim has been amended to recite specific sequences of SEQ ID NO: 1, 2, 4, 5. The response also requests clarification regarding the rejection. Previously, the claims were drawn to a polynucleotide with at least 50% identity to a fragment of SEQ ID NO: 1. Hawkins teaches GenBank Accession No. AC002320 which a 122 base pair sequence is 99.2% identical to base pairs 48493-48372 of SEQ ID NO: 1, constituting a fragment. This argument has been reviewed but is not convincing because the claims remain drawn to a polynucleotide having at least 50% identity with SEQ ID NO: 1. As stated by the response (pg. 12), the "query match", which is the alignment over the entire sequence as opposed to the best local similarity, is 51% identical to SEQ ID NO: 1, which is encompassed by the instant claims. Thus for the reasons above and those already of record, the rejection is maintained.

***Claim Rejections - 35 USC § 103***

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 10 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nangaku et al (Immunogenetics, 1997) in view of Hawkins (GenBank Accession No: ACOO2098, May 1997) or Hawkins GenBank Accession NO: AC002320, July 1997) further in view of Cohen (US. Pat. 5,939,265).

Nangaku teaches the identification of a new human gene from the EST database. "The EST database is a new tool that can be used to find new human genes and many partial sequences of new human genes have been discovered using this database" (pg. 101, col. 2). The identification method taught by Nangaku includes the identification of the EST sequences, followed by Northern blot using the EST sequence as a probe, isolation of cDNA clone, and DNA sequencing. The Northern blot method includes separation of RNA on an agarose gel and transferring to nitrocellulose filter

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prior to hybridizing with a probe labeled with a label (limitations of Claim 2). The filter was hybridized with a labeled probe (pg. 100, col. 1, para 1).

Hawkins teaches GenBank Accession No. ACOO2098, a human chromosome 9 clone of which a 122 base pair sequence is 99.2% identical to base pairs 5815-5694 of SEQ ID NO: 1 (See attachment)(limitations of Claims 11). The "query match", which is the alignment over the entire sequence as opposed to the best local similarity, is 51% identical to SEQ ID NO: 1.

Hawkins teaches GenBank Accession No. AC002320, a human chromosome 9 clone of which a 122 base pair sequence is 99.2% identical to base pairs 48493-48372 of SEQ ID NO: 1 (See attachment)(limitations of Claims 11). The "query match", which is the alignment over the entire sequence as opposed to the best local similarity, is 51% identical to SEQ ID NO: 1.

Neither Nangaku et al (Immunogenetics, 1997) nor Hawkins (GenBank Accession No: ACOO2098, May 1997) or Hawkins GenBank Accession NO: AC002320, July 1997) or NCI (GenBank Accession No: AI1251747, 1997) or Hillier (GenBank Accession No: AA460323, September 12, 1996) or Hillier (GenBank Accession No: AA460385, September 12, 1996) or NCI (GenBank Accession No: AI143970, September 12, 1996) specifically teaches packaging the EST probes as a test kit.

However, Cohen teaches a test kit which contains polynucleotide fragments employed for an assay. Further this test kit can be provided to contain not only the

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polynucleotides but also containers with tools useful for collecting test samples (col. 5, lines 23-40).

Therefore, it would have been **prima facie** obvious to one of ordinary skill in the art at the time the invention was made to have packaged polynucleotides of Hawkins (GenBank Accession No: ACOO2098, May 1997) or Hawkins GenBank Accession NO: AC002320, July 1997) for use in the method of Nangaku in a kit as taught by Cohen for the expected benefits of convenience and cost-effectiveness of performing the method of Nangaku with Hawkins (GenBank Accession No: ACOO2098, May 1997) or Hawkins GenBank Accession NO: AC002320, July 1997).

### **Response to Arguments**

The response traverses the rejection. The response asserts that there is no suggestion within the reference to arrive at the precisely claimed polynucleotides nor that detection of the polynucleotides are indicative of breast tissue disease. This argument has been reviewed but is not convincing because the claims are drawn to a kit, a composition, wherein an intended use recited in the preamble carries no patentable weight. Further, the claims are drawn to a kit which contains polynucleotides having at least 50% identity with SEQ ID NO: 1 or 2 or polynucleotides with at least 60% identity with SEQ ID NO: 4 or 5. The claim is drawn to a polynucleotide of any length which minimally contains a region having 50% identity with SEQ ID NO: 1-5. "Having" is open claim language equivalent to "comprising". A polynucleotide which has 50% identity to a specific sequence is not equivalent to a polynucleotide consisting of SEQ ID

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NO: 1-5. The claims are not limited to specific sequences but instead to a very large genus of polynucleotides. Thus, for the reasons above and those already of record, the rejection is maintained.

**New Grounds of Rejection Necessitated by Amendment**

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 1-16, 30, 33, 35, 38-42 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The essential limitations of the claims are drawn to polynucleotides having 50% identity with SEQ ID NO: 1, 2 or having 60% identity with SEQ ID NO: 4, 5. Moreover, the claims are drawn to correlating the detection of these polynucleotides to breast tissue disease.

The specification teaches the polynucleotides consisting of SEQ ID NO: 1-5. The specification teaches a single BS124 consensus polynucleotide, SEQ ID NO: 5, the sequence of which was assembled from 3 EST clones (SEQ ID NO:1-3) and the fill-

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length clone (SEQ ID NO: 4) (pg. 57). The specification only analyzed breast cancer tissue in the specification.

There is not adequate description of the genus of polynucleotides having 50% identity with SEQ ID NO: 1, 2 or having 60% identity with SEQ ID NO: 4, 5. The specification only discloses polynucleotides consisting of SEQ ID NO: 1, 2, 4 and 5 within the scope of the genus: having 50% identity with SEQ ID NO: 1, 2 or having 60% identity with SEQ ID NO: 4, 5. Yet Applicant's claims, which are to sequences having "at least 50% identity" with a few sequences taught in the specification, may encompass thousands of polynucleotides. The general knowledge in the art concerning having 50% identity with SEQ ID NO: 1, 2 or having 60% identity with SEQ ID NO: 4, 5 does not provide any indication of how to readily identify these polynucleotides. There is substantial variability among the species of nucleic acids encompassed in the scope of the claim. The specification has also not defined a structural feature of the polynucleotides having 50% or 60% identity which would be common to all members of the genus that constitutes a substantial portion of the genus. Neither the specification nor the claims set forth any particular structural or functional characteristics that a skilled artisan could use to identify polynucleotides that constitute BS124 polynucleotides, other than those described by SEQ ID NO. The specification provides no guidance in the specification with respect to structural and functional features that may be used to identify such polynucleotides.

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Additionally, "breast tissue disease" is a broad term, which is not limited to breast cancer but would also encompass any type of disease of breast tissue, including infections of breast tissue, and mammary gland disorders, for example. The only breast disease tissue analyzed in the specification was breast cancer tissue.

Furthermore, in teaching a single BS124 polynucleotide sequence and a single BS124 protein sequence, applicant clearly has not taught the isolation of a representative number of polynucleotides that fall within the scope of the large genus encompassed by the instant claims. Thus one of skill in the art would conclude that applicant was not in possession of the claimed "polynucleotides having 50% identity with SEQ ID NO: 1, 2 or having 60% identity with SEQ ID NO: 4, 5" because the description of only polynucleotides consisting of SEQ ID NO: 1, 2, 3, 4, and 5 of this genus is not representative of the polynucleotides of the genus and is insufficient to support the claims. Thus, the specification does not adequately provide a written description for polynucleotides having 50% identity with SEQ ID NO: 1, 2 or having 60% identity with SEQ ID NO: 4, 5.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.



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6. Claims 3-9, 40 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for detecting SEQ ID NO: 1, 2, 4, 5, does not reasonably provide enablement for detecting a polynucleotide indicative of breast tissue disease by detecting a sequence having at least 50% identity with SEQ ID NO: 1, 2, or at least 60% identity with SEQ ID NO: 4, 5. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to the invention commensurate in scope with these claims.

The claims are broadly drawn to a method for detecting a diagnostic polynucleotide nor a polynucleotide indicative of breast tissue disease by detecting a sequence having at least 50% identity with SEQ ID NO: 1, 2, or at least 60% identity with SEQ ID NO: 4, 5.

The specification teaches BS124 was found in 5.9% of breast tissue libraries and only in .3% of non-breast libraries (pg. 57, lines 21-24). Further, the specification teaches that BS124 RNA was isolated from both breast tissues and from non-breast tissues (pg. 59). The specification teaches that through a Northern blot analysis the BS124 probe detected RNA in the breast sample and the testis sample, but not in any of the other non-lung RNA samples (pg. 65, lines 27-30). The BS124 probe detected RNA in 2/6 breast cancer specimens but not in any of the five normal breast samples (pg. 66, lines 1-5).

Additionally, "breast tissue disease" is a broad term, which is not limited to breast cancer but would also encompass any type of disease of breast tissue, including

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infections of breast tissue, and mammary gland disorders, for example. The only breast disease tissue analyzed in the specification was breast cancer tissue.

Correlating the presence of SEQ ID NO: 1, 2, 4, 5 to the presence of breast tissue disease in a patient would be unpredictable since the specification teaches that BS124 was detected in both breast tissue and testis tissue. It would be undue experimentation for the ordinary artisan to perform the additional studies needed to determine whether the detection of the polynucleotide in testis tissue is in fact indicative of breast tissue disease. It would be unpredictable to detect any breast tissue disease with BS124 since no guide was provided in the specification to any breast tissue diseases other than breast cancer. The wide variety of different disease encompassed by the broad term breast tissue disease have no pathological or metabolic relationship to cancer.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

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6. Claim 38 is rejected under 35 U.S.C. 102(e) as being clearly anticipated by Conklin (US Pat 6,020,163, February 2000).

Conklin teaches a lipocalin homolog polypeptide, SEQ ID NO: 2, which contains 170 amino acids which are 100% identical to the 170 amino acids of SEQ ID NO: 22. Further, Conklin teaches that SEQ ID NO: 5 is a polynucleotide which encodes the amino acid of SEQ ID NO: 2. Thus the claimed invention is anticipated by the teachings of Conklin.

### **Conclusion**

7. No claims allowable.
8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner Jeanine Enewold whose telephone number is (703) 306-5817. The examiner can normally be reached Monday-Thursday from 7:00 AM to 4:30 PM.

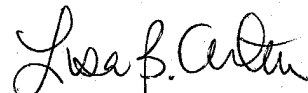
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Jones, can be reached on (703) 308-1152. The fax number for this Group is (703) 305- 3014.

Any inquiry of a general nature should be directed to the Group receptionist whose telephone number is (703) 308-0196.

Jeanine Enewold

April 12, 2000



  
LISA B. ARTHUR  
PRIMARY EXAMINER  
GROUP 1800/600